

The Second On-line Conference on
*Competitiveness and Economic Development: Challenges, Goals
and Means in a Knowledge based Society*





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Abstract:

In the wake of the Global Financial Crisis (GFC) it was apparent that in spite of compliance with Basel II, many banks were responsible both for triggering the crisis and for the consequent contagion effects. A unified proposed reform package and a set of global regulation codes required the collaborative force of regulators, financial analysts and bankers round the globe. After a one-year public consultation throughout 2010, the Basel Committee on Banking Supervision outlined the shape of the new global banking regulatory regime needed to avoid future financial crises. The proposed regulatory framework, known as Basel III, is not solely a risk-based regulatory regime, but also focuses on capital risk management and governance underpinning a robust financial sector. In light of the framework now agreed, and in spite of the expected implementation in 2018, many regulatory institutions and banking organizations have already begun the process of assessing their capital and risk management strategy. The calibrated impact and higher costs of these requirements have alerted bankers that they face a significant challenge of reduced competitiveness. It is asserted that the short and medium-term costs are immense for the banking units as well as for the economy at large and that banking institutions must retain flexibility to accommodate years of fine tuning and future reforms. Also, the pre-implementation requirements imply that central banks will exert pressure on weaker banks that find it more difficult to rebuild capital.

Key-words: DSGE model, economic forecasting, corporate governance in banks,

1. Aims and scope of the paper

This research utilizes a small-scale dynamic stochastic general equilibrium (DSGE) model to simulate the effect of the impending Basel III on emerging economies and to report the effect on competitiveness.

2. Review of the Literature

Dynamic equilibrium theory took off in the seventies when Friedman and Schwartz (1971) combined DSGE models with the importance of money documented by empirical studies. It was Kydland and Prescott (1982) who built a small and coherent dynamic model of the economy from first principles with optimizing agents, rational expectations, and market clearing in a manner that resembled observed variables to a remarkable degree. Other solution methods for DSGE models, such as projection algorithms and value function iteration, are described and compared in Judd (1998). Christiano (1990) substituted a problem by a linear quadratic approximation to it. Greenwood et al. (1997) used the DSGE model to show how the investment-specific technological shock accounts for the fall in the relative price of capital observed in the U.S. economy since the Second World War. Time-varying volatility in the shocks helps to understand the changing volatility in the economy over the last decades that has been named the “Great Moderation” by Stock and Watson (2003). Then recently it traveled to handling complex issues to the extent that many central banks round the world use it as a forecasting tool (Christiano et al. 2005).

3. Methodology of research/ approach

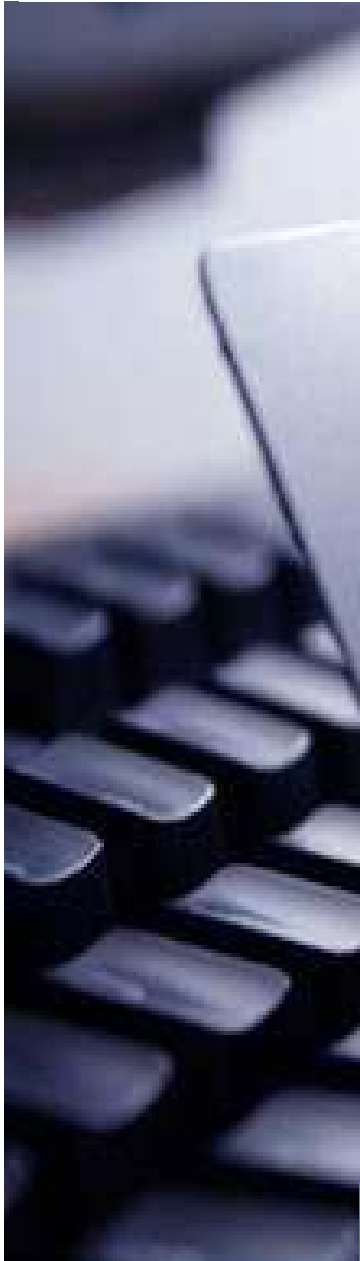
This paper uses a small-scale DSGE model for Egypt and Ukraine to forecast the effects of the three proposed reforms of Basel III: capital requirements, liquidity ratios and corporate governance practices on real GDP growth, employment, inflation and interest rates. The study extends over the period 2000:01-2010:03. The economy is divided into three agents: utility maximizing households, firms that seek to maximize profits, and monetary authorities with the explicit nominal anchor of price stability and the implicit goal of output growth and financial stability. The IS curve, the forward looking Phillips curve and the monetary policy rule further elucidate the model. The system is put into motion by structural demand, supply and monetary shocks.

4. Findings and dates

The stylized facts of the data are compared to the baseline model. The baseline model properly emulates most of the stylized facts. There are two noticeable problems, the first is that the baseline model underestimates the variability of inflation for both nations; the standard deviation (SD) of inflation is 3.33% in the baseline model, while it amounts to 10.11% for Egypt and 9.03% for Ukraine. Secondly, the model underestimates the variability of the interest rate. Also, in regard to the interest rate, the model records 97% correlation with output, in comparison to 11% for Egypt and only 1% for Ukraine. All other results appear to be consistent with previous research. For example, output is more variable than consumption. Moreover, the high volatility of investment in relation to output is in line with the previous literature, since there are more important determining factors of investment such as contagion effects of financial crises, foreign direct investment, interest rates and financial stability (Moguillansky 2002). The DSGE model is able to replicate both the negative correlation between inflation one to two years in the past and current output and the positive correlation between current output and inflation one year ahead. Moreover, a positive productivity shock leads to an expansion of aggregate demand and output. The monetary policy reaction function shows a fall in interest rates, but not enough to prevent the opening up of an output gap and a fall in inflation.



5. Results and Discussions



The DSGE model is able to replicate both the negative correlation between inflation one to two years in the past and current output and the positive correlation between current output and inflation one year ahead. Moreover, a positive productivity shock leads to an expansion of aggregate demand and output. The monetary policy reaction function shows a fall in interest rates, but not enough to prevent the opening up of an output gap and a fall in inflation.

6. Concluding Remarks

The results reveal that the collective impacts of meeting capital adequacy, liquidity and corporate governance requirements are better weathered by the Egyptian economy. Ukrainian GDP shows a slowdown throughout the period 2013-18, after which recovery is realized. This is a very important result that shows that the vigilance of Egyptian supervisory agents was a pertinent source of enhancing and sustaining macroeconomic performance. Also, the costs of the proposed regulatory reforms will be quite detrimental for Ukraine, but are forecasted to be better sustained by the Egyptian economy, implying that emerging nations that were well geared up through meeting Basel II requirements will show more resilience to the costliness of future reforms. The general recommendation to enhance the resilience of the Ukrainian banking sector is to expedite bank regulatory reforms and complement them with proper corporate governance practices.

8. References:

- Andreeva, Y.S. (2009) "Regulative measures of NBU in financial crisis," *Society. Science. Culture. Conference Proceedings*, Kiev, Meganom, Ukraine.
- Business Monitor International (2010) *Egypt Banking Sector Outlook*, Cairo: BMI.
- Central Bank of Egypt (2010) *Monthly Statistical Bulletin*, pp. 46-7.
- Christiano L. G. (1990) Linear-quadratic approximation and value-function iteration: a comparison. *Journal of Business and Economic Statistics* 8:99–113.
- Christiano, L.G., Eichenbaum, M. and Evans, C. (2005) "Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy," *Journal of Political Economy*, 113 (1), 1-45.
- FriedmanM, SchwartzAJ (1971) *A monetary history of the United States, 1867–1960*. Princeton University Press, Princeton.
- Greenwood J, Herkowitz Z, Krusell P (1997) Long-run implications of investment-specific technological change. *American Economic Review*, 87:342–362
- Hansen, G.D. (1985) "Indivisible Labor and the Business Cycle," *Journal of Monetary Economics*, 16: 309-327.
- Judd KL, Guu SM (1993) Perturbation solution methods for economic growth model. In: Varian H (ed) *Economic and financial modelling in mathematica*. Springer, Berlin
- Justisano, A. and Preston, B. (2010) "Monetary Policy and Uncertainty in an Empirical Small Open Economy Model," *Journal of Applied Econometrics*, 25 (1): 93-128.
- Kums, P., Watson, M., Kampos, K. and Newyell, G. (2009) "The price of corporate governance," < <http://www.vestnikmckinsey.ru> >. (accessed August 22, 2010).
- Kydland FE, Prescott EC (1982)"Time to build and aggregate fluctuations," *Econometrica* 50:1345–1370.
- Moguillansky, G. (2002) "Investment and Financial Volatility in Latin America," *CEPAL Review*, 77: 45-63.
- National Bank of Ukraine (2010) *Main Indicators of Ukrainian Banking Activities*. < http://bank.gov.ua/Engl/Bank_supervision/dynamics_e.htm >. (Accessed on September 23, 2010)
- Rudebusch, G. (2002) "Term Structure Evidence on Interest-rate Smoothing and Monetary Policy Inertia," *Journal of Monetary Economics*, 49: 1116-1186.
- Stock J.H., Watson MW (2003) Has the business cycle changed, and why? NBER 2002:159–218.
- World Bank (2010) *Doing Business 2010: Comparing Regulation in 183 Economies*. Washington, D.C.: The World Bank, IFC and Palgrave MacMillan.
- World Economic Forum (2010) "The Global Competitiveness Report 2010–2011," *World Economic Forum, Geneva*. < http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf >. (accessed on September 18, 2010).